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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,393	06/26/2001	Gen Motoyoshi	016778-0432	9469
22428	7590	08/11/2005	EXAMINER	
FOLEY AND LARDNER SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			CHO, HONG SOL	
			ART UNIT	PAPER NUMBER
			2662	

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/888,393

Applicant(s)

MOTOYOSHI, GEN

Examiner

Hong Cho

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Amendment***

1. This office action is in response to the amendment filed on 6/7/2005. Claims 1-40 are pending in the instant application.

***Claim Objections***

2. Claims 1, 6, 11, 16, 21, 25, 29, 33, and 37-40 are objected to because of the following informalities:

Re claim 1, 6, 11, 16, 21, 25, 29, 33, and 37-40, it is not clear what is meant by "making... a number of spreading codes change".

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 6, 11, 16, 21, 25, 29, 33, and 37-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiramatsu (U.S. 6519278) in view of Magnusson et al (U.S. 6163524), hereinafter referred to as Magnusson.

In a CDMA system, a common frequency band is used for communication between a mobile station and a base station (*a code division multiple access communication system using a common frequency band at a forward and a reverse channel*).

Re claims 1, 6, 11, 16, 37, and 38, Hiramatsu discloses designating and changing the number of spreading codes used in a reverse link (*a first assigning means for assigning reverse spreading codes to reverse channel, wherein assigning means making the number of said reverse and forward spreading codes changes*, column 2, lines 54-62). Hiramatsu does not disclose a first detecting means for detecting an amount of traffic in reverse channel to produce a first detected signal indicative of the amount of traffic in reverse channel. Magnusson discloses allocating spreading codes based on traffic rate (abstract, column 5, lines 51-55). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hiramatsu to use the concept of Magnusson in detecting the data rate of reverse and forward link so that the number of spreading codes are increased or decreased based on the amount of traffic. Since Hiramatsu suggests designating more spreading codes for transmission of the data than for transmission of voice (column 4, lines 25-27), the motivation is to get greater throughput by assigning a greater number of spreading codes to higher data rate traffics and to maintain the optimal number of spreading codes to be designated for other traffic by reducing the number of spreading codes when the traffic volume is less. Hiramatsu discloses designating and changing the number of spreading codes used in a forward link

*(a second assigning means for assigning forward spreading codes to forward channel, wherein assigning means making the number of forward spreading codes changes,* column 4, lines 18-32). Hiramatsu does not disclose a second detecting means for detecting an amount of traffic in forward channel to produce a second detected signal indicative of the amount of traffic in forward channel. Magnusson discloses allocating spreading codes based on traffic rate (abstract, column 5, lines 51-55). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hiramatsu to use the concept of Magnusson in detecting the data rate of reverse and forward link so that the number of spreading codes are increased or decreased based on the amount of traffic. Since Hiramatsu suggests designating more spreading codes for transmission of the data than for transmission of voice, the motivation is to get greater throughput by assigning a greater number of spreading codes to higher data rate traffics and to maintain the optimal number of spreading codes to be designated for other traffic by reducing the number of spreading codes when the traffic volume is less.

Re claims 21, 29, and 39, Hiramatsu discloses designating and changing the number of spreading codes used in a reverse link *(a first assigning means for assigning reverse spreading codes to reverse channel, wherein assigning means making the number of said reverse and forward spreading codes changes,* column 2, lines 54-62). Hiramatsu does not disclose a first detecting means for detecting an amount of traffic in reverse channel to produce a first detected signal indicative of the amount of traffic in reverse channel. Magnusson discloses allocating spreading codes based on traffic rate (abstract, column 5, lines 51-55). It would have been obvious to one having ordinary skill in the art

at the time the invention was made to modify Hiramatsu to use the concept of Magnusson in detecting the data rate of reverse and forward link so that the number of spreading codes are increased or decreased based on the amount of traffic. Since Hiramatsu suggests designating more spreading codes for transmission of the data than for transmission of voice, the motivation is to get greater throughput by assigning a greater number of spreading codes to higher data rate traffics and to maintain the optimal number of spreading codes to be designated for other traffic by reducing the number of spreading codes when the traffic volume is less.

Re claims 25, 33, and 40, Hiramatsu discloses designating and changing the number of spreading codes used in a forward link (*a second assigning means for assigning forward spreading codes to forward channel, wherein assigning means making the number of forward spreading codes changes*, column 4, lines 18-32). Hiramatsu does not disclose a second detecting means for detecting an amount of traffic in forward channel to produce a second detected signal indicative of the amount of traffic in forward channel. Magnusson discloses allocating spreading codes based on traffic rate (abstract, column 5, lines 51-55). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hiramatsu to use the concept of Magnusson in detecting the data rate of reverse and forward link so that the number of spreading codes are increased or decreased based on the amount of traffic. Since Hiramatsu suggests designating more spreading codes for transmission of the data than for transmission of voice, the motivation is to get greater throughput by assigning a greater number of spreading codes to higher data rate traffics and to maintain the optimal number

of spreading codes to be designated for other traffic by reducing the number of spreading codes when the traffic volume is less.

Claim 2, 3, 7, 8, 12, 13, 17, 18, 22, 23, 26, 27, 30, 31, 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiramatsu in view of Magnusson and further in view of Agee et al (US 6359923), hereinafter referred to as Agee.

Re claims 2, 7, 12, 17, 22, 26, 30 and 34, Hiramatsu disclose all of the limitations of the base claim, but fails disclose CDMA system using Frequency Hopping (FH) system. However, Agee discloses CDMA system using FH (column 2, lines 21-25). FH is one of basic modulation techniques used in spread spectrum system wherein the spreading code is a list of frequencies to be used for a carrier signal. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use FH as a spreading code modulation method to avoid interfering signals by not spending much time on any specific frequency.

Re claims 3, 8, 13, 18, 23, 27, 31 and 35, Hiramatsu disclose all of the limitations of the base claim, but fails disclose CDMA system using Direct Sequence (DS) system. However, Agee discloses CDMA system using DS (column 2, lines 21-25). DS is one of basic modulation techniques used in spread spectrum system wherein the spreading code is the chip sequence used to represent message bits. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use DS as a spreading code modulation method to provide a secure communication link since the

power density of the spread spectrum signal is much lower than the narrowband signal so that it is difficult to detect the presence of the spread spectrum signal.

Claim 4, 5, 9, 10, 14, 15, 19, 20, 24, 28, 32 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiramatsu in view of Magnusson.

Re claims 4, 9, 14, 19, 24 and 32, Hiramatsu discloses designating and changing the number of spreading codes used in a reverse link. Hiramatsu does not disclose increasing number of said reverse spreading codes when the traffic in said reverse channels is much and decreasing number of said reverse spreading codes when the traffic in said reverse channels is little. Magnusson discloses allocating spreading codes based on traffic rate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the signal of Hiramatsu to indicate the data rate of reverse link so that the number of spreading codes are increased or decreased based on the amount of traffic. Since Hiramatsu suggests designating more spreading codes for transmission of the data than for transmission of voice, the motivation is to get greater throughput by assigning a greater number of spreading codes to higher data rate traffics and to maintain the optimal number of spreading codes to be designated for other traffic by reducing the number of spreading codes when the traffic volume is less.

Re claims 5, 10, 15, 20, 28 and 36, Hiramatsu discloses designating and changing the number of spreading codes used in a forward link. Hiramatsu does not disclose increasing number of said forward spreading codes when the traffic in said forward



channel is much and decreasing number of said forward spreading codes when the traffic in said forward channel is little. Magnusson discloses allocating spreading codes based on traffic rate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the signal of Hiramatsu to indicate the data rate of forward link so that the number of spreading codes are increased or decreased based on the amount of traffic. Since Hiramatsu suggests designating more spreading codes for transmission of the data than for transmission of voice, the motivation is to get greater throughput by assigning a greater number of spreading codes to higher data rate traffics and to maintain the optimal number of spreading codes to be designated for other traffic by reducing the number of spreading codes when the traffic volume is less.

#### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-40 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is

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not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong Cho whose telephone number is 571-272-3087. The examiner can normally be reached on Mon-Fri during 7 am to 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3088.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

hc  
Hong Cho  
Patent Examiner  
8/10/2005

  
JOHN PEZZLO  
PRIMARY EXAMINER